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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,505	01/16/2004	Guillermo C. Bazan	1279-400C1/1021394	7669

167 7590 03/09/2005

FULBRIGHT AND JAWORSKI L L P
PATENT DOCKETING 29TH FLOOR
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EXAMINER	
THOMPSON, CAMIE S	
ART UNIT	PAPER NUMBER
1774	

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/759,505	BAZAN ET AL.	
	Examiner	Art Unit	
	Camie S Thompson	1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12,15 and 16* is/are rejected.

7)☒ Claim(s) *13,14 and 17* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 2/23/04, 8/9/04, 10/18/04, 12/22/04
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1-11 are objected to because of the following informalities: The term "binaphthyl" is misspelled in all of the claims. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 6 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 is rendered indefinite because it is unclear as to whether or not the binaphthyl compound is a fluorescent dye or if the fluorescent dye comprises a binaphthyl compound.

Claim 15 is rendered indefinite because it is unclear as to which claim 15 depends.

DETAILED ACTION

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 4-5, 7-8, 10 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Ostrowski et al., *Glass-Forming Binaphthyl Chromophores,* Chem. Eur. Journal, 2001 (7), No. 20.

The 5Hex compound found on page 4502 of the Ostrowski reference reads on instant claim 1 wherein the substituents on the binaphthyl are an aromatic hydrocarbon such as – OC_6H_{13} which corresponds to Ar^1 and Ar^2 and where n^1 and n^2 are zero. Additionally, the compounds found on page 4502 of the reference read on instant claim 1 in that the binaphthyl framework is substituted at another position except those occupied by $(X^1)n^1Ar^1$ and $(X^2)n^2Ar^2$. The reference discloses a binaphthyl compound that reads on instant claim 4 when n^1 and n^2 are zero; Ar^1 and Ar^2 are substituted aromatic hydrocarbons and R^1 and R^2 are alkoxy groups. See the binaphthyl compound found on page 4502 of the reference. The reference discloses devices with the configurations of an anode (ITO)/layer with 5HEX/cathode (Ca) as per instant claims 7 and 8 and anode (ITO)/PEDT/PVK/5HEX/cathode (Ba/Al) as per instant claim 10.

6. Claims 1, 6-8, 10-11 and 16 arerejected under 35 U.S.C. 102(e) as being anticipated by Kita et al., U.S. Patent Number 6,656,608.

Kita discloses an electroluminescent element comprising an electroluminescent material and a fluorescent substance (see abstract or column 1, lines 5-12). Formula G2 of the reference discloses a binaphthyl compound that reads on instant claims 1 (see column 6). The reference discloses that R_{91} and R_{92} can be an aryloxy where m and n are both 1 or more, which reads on

the binaphthyl compounds found in the instant claims when n^1 and n^2 are 0 (see column 9, lines 50-60). Also, as per the instant claims, G2 reads on the instant claims with an alkyl substituent located at another position except those occupied by $(X^1)n^1Ar^1$ and $(X^2)n^2Ar^2$. Additionally, the reference discloses that the compounds of the reference can be fluorescent dyes as per instant claim 6 (see column 16, lines 6-44). Column 53, lines 33-59 of the reference discloses the layer structure of the electroluminescent compound as comprising a substrate/anode/hole injection layer/light emissive layer/electron injection layer/cathode as per instant claims 7-8 and 10-11. The Kita reference also discloses that the binaphthyl compounds are separately contained in different layers and may be an emission material, a hole injection material or an electron injection material as per instant claims 7-8 and 10-11 (see column 52, lines 30-59).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1, 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kita et al., U.S. Patent Number 6,565,608.

Kita discloses an electroluminescent element comprising an electroluminescent material and a fluorescent substance (see abstract or column 1, lines 5-12). Formula G2 of the reference discloses a binaphthyl compound that reads on instant claims 1 (see column 6). The reference

discloses that R_{91} and R_{92} can be an aryloxy where m and n are both 1 or more, which reads on the binaphthyl compounds found in the instant claims when n^1 and n^2 are 0 (see column 9, lines 50-60). Column 6, lines 25-32 of the reference discloses that R_{91} and R_{92} can be condensed with each other. The reference does not disclose how many condensed rings R_{91} and R_{92} have as per instant claim 3. However, the reference does disclose that n can be 1 or more. Therefore, it would have been obvious to one of ordinary skill in the art to have X^1 and X^2 be one, two or three-condensed aromatic rings. The reference does not disclose the concentration of the binaphthyl compound as per instant claim 9. However, this is an optimizable feature. The concentration of the binaphthyl compound affects the luminescent efficiency. Discovery of optimum values of a result effect variable involves only routine skill in the art *in re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Therefore, it would have been obvious to one of ordinary skill in the art to have a binaphthyl compound with a concentration in the range of 0.01 to 20% by weight in order to have an organic light-emitting device with high luminescent efficiency.

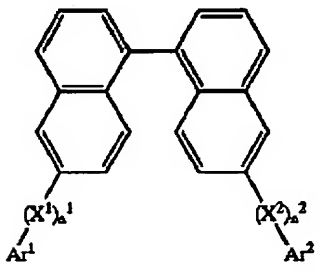
Double Patenting

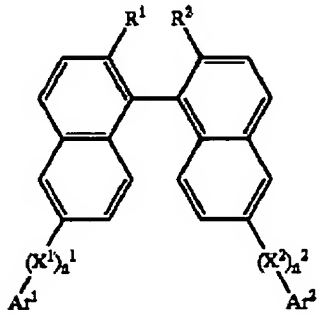
9. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

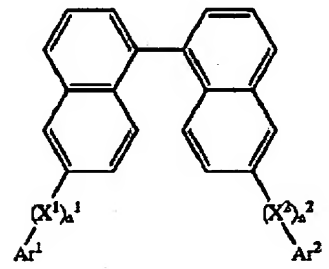
10. Claims 1-11 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-11 of copending Application No. 10/346,667. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

11. Claims 13-14 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not provide for an organic light emitting device comprising an anode and a cathode, and an emissive layer between the anode and cathode, the device including a hole-blocking layer between the emissive layer and the cathode comprising binaphthyl compounds with the general formulas





Additionally, the prior art does not provide for an organic light emitting device having an anode and cathode and an emissive layer between the anode and cathode, the emissive layer comprising the binaphthyl compound of



and further including the phosphorescent dye, fac-tris(2-phenylpyridine) iridium (III).

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (571) 272-1530. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena L Dye, can be reached at (571) 272-3186. The fax phone number for the Group is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

RENA DYE
SUPERVISORY PATENT EXAMINER
AN. 1774

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A.U. 1774 3/3/-5